

Amendments to the Claims:

Please amend the claims as follows:

1. (Currently amended) An abnormality detecting device of a fuel cell system, comprising:

a hydrogen off-gas circulation passage for making hydrogen off-gas discharged from a fuel cell flow back to an anode of the fuel cell;

a discharge passage for discharging part of the hydrogen off-gas, which is circulated through the hydrogen off-gas circulation passage, from the hydrogen off-gas circulation passage;

a hydrogen discharge valve provided in the discharge passage; and

an abnormality determining means portion for determining whether an abnormality has occurred in opening/closing of the hydrogen discharge valve, characterized by further comprising:

a gas state quantity detecting means portion for detecting a gas state quantity of the hydrogen off-gas, the gas state quantity detecting means portion being provided in the discharge passage at a position downstream from the hydrogen discharge valve, wherein the abnormality determining means portion determines whether an abnormality has occurred in opening/closing of the hydrogen discharge valve based on the gas state quantity of the hydrogen off-gas.

2. (Currently amended) The abnormality detecting device of a fuel cell system according to claim 1, further comprising:

a mixing chamber for mixing the hydrogen off-gas discharged from the discharge passage with external gas, wherein the gas state quantity detecting means portion detects the gas state quantity of the hydrogen off-gas which is mixed with the external gas in the mixing chamber.

3. (Original) The abnormality detecting device of a fuel cell system according to claim 2, wherein the external gas is part of oxidizing gas to be supplied to a cathode of the fuel cell.

4. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 1 to claim 3~~ claim 1, wherein the hydrogen discharge valve is an electromagnetic valve, and the abnormality determining means portion determines whether an abnormality has occurred in opening/closing of the hydrogen discharge valve based on the gas state quantity detected by the gas state quantity detecting means so as to deal with a change in an input of an opening/closing control signal to the electromagnetic valve.
5. (Currently amended) The abnormality detecting device of a fuel cell system according to claim 4, wherein the abnormality determining means portion determines whether an abnormality has occurred in opening/closing of the electromagnetic valve based on a change with time in the gas state quantity detected by the gas state quantity detecting means portion so as to deal with the change in the input of the opening/closing control signal to the electromagnetic valve.
6. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 1 to claim 5~~ claim 1, wherein the gas state quantity is a physical quantity related to one of a hydrogen concentration, a flow speed, a pressure, a proportion of each ingredient, a temperature and a dielectric constant of the hydrogen off-gas.
7. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 1 to claim 6~~ claim 1, further comprising:
a gas state quantity detecting means portion for detecting the gas state quantity of the hydrogen off-gas, the gas state quantity detecting means portion being provided in the discharge passage at a position upstream from the hydrogen discharge valve, wherein the abnormality determining means detects an abnormality in opening/closing of the hydrogen discharge valve based on the gas state quantity detected by the gas state quantity detecting means provided on each of an upstream side and a downstream side of the hydrogen discharge valve.

8. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 1 to claim 7~~ claim 1, further comprising:
 a gas-liquid separating means portion for separating the hydrogen off-gas into gas and liquid, wherein the gas state quantity detecting means portion detects the gas state quantity of the hydrogen off-gas which has been separated into gas and liquid by the gas-liquid separating means separator.
9. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 6 to claim 8~~ claim 6, further comprising:
 a pressure sensor which is provided in the discharge passage at a position downstream from the hydrogen discharge valve, and which detects a pressure of the hydrogen off-gas.
10. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 6 to claim 8~~ claim 6, further comprising:
 a temperature sensor which is provided in the discharge passage at a position downstream from the hydrogen discharge valve, and which detects a temperature of the hydrogen off-gas.
11. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 6 to claim 8~~ claim 6, further comprising:
 paired electrodes which are provided in the mixing chamber and which are opposed to each other in order to detect a dielectric constant of the hydrogen off-gas.
12. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 6 to claim 8~~ claim 6, further comprising:
 a heat wire resistance which is provided in the mixing chamber and which detects a heat conductivity of the hydrogen off-gas.
13. (Currently amended) The abnormality detecting device of a fuel cell system according to ~~any one of claim 1 to claim 12~~ claim 1, further comprising:
 means a portion for dealing with a failure when the abnormality determining means portion detects an abnormality in opening/closing of the

hydrogen discharge valve.

14. (New) The abnormality detecting device of a fuel cell system according to claim 1, wherein the gas state quantity detecting portion being provided in the discharge passage at a position outside the hydrogen off-gas circulation passage.